REMARKS

The Office Action of January 22, 2007 has been received and carefully reviewed. Applicant notes with appreciation the indication in the Office Action that the certified copies of the priority documents have been received. In addition, Applicant notes with appreciation the indication that objected claims 7 and 12 would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims. By the above amendment, the specification has been amended to remove an inadvertent reference numeral "30" on page 7 without introduction of new matter. In addition, claim formalities have been addressed, with independent claims 1 and 10 being amended to remove the characterization language. In addition, the pressure tank and compressor features of original claim 7 were added to independent claim 1, independent claim 13 was amended to delete the reference to claim 1 and to include the cooling device elements thereof, and new claims 14 and 15 have been added to recite the pressure tank, compressor, and pressure reducer features of original claim 7, and by which no new matter has been introduced. Reconsideration of pending claims 1-15 is respectfully requested in view of the above amendments and the following remarks.

I. CLAIM REJECTIONS UNDER 35 U.S.C. §102

Claims 1-6, 8-11, and 13 were rejected under 35 U.S.C. §102 as being anticipated by EP 0544943. Applicant respectfully submits that Kawashima fails to teach or suggest each and every element of claims 1-6, 8-11, and 13 and accordingly requests reconsideration and withdrawal of the rejections under 35 U.S.C. §102 for at least the following reasons.

Independent claim 1 is directed to a device for cooling a superconducting coil assembly in an MR apparatus, and recites *inter alia* a cooling agent storage in fluid connection with the cooling chamber. The cooling agent storage of claim 1 and dependent claims 2-6, 8, and 9 is adapted to take up cooling agent from the cooling chamber when at least a part of the cooling agent in the cooling chamber exceeds a first predetermined temperature, and to return cooling agent to the cooling chamber when at least a part of the cooling agent in the cooling chamber remains below or is equal to a second predetermined temperature. By the above amendment, the pressure tank and compressor features of original claim 7 have been added to independent

claim 1, whereby claim 1 and claims 2-9 depending therefrom are not anticipated by EP 0544943, and reconsideration thereof is respectfully requested under 35 U.S.C. §102 for at least this reason.

In addition, claim 1 involves taking up coolant and returning coolant based on first and second predetermined *temperatures*. There is no teaching or suggestion in EP 0544943 for taking up coolant from a cooling chamber when a coolant temperature exceeds a first predetermined temperature. Moreover, EP 0544943 fails to teach or suggest returning coolant to a cooling chamber when the coolant temperature remains below or is equal to a second predetermined temperature. Rather, the system of EP 0544943, appears to control the on-off valve V1 and the flow control valve V2 according to sensed *pressure*. For releasing gas from the container 2, the processing circuit 27 in Fig. 1 of EP 0544943 controls the operation of the on-off valve V1 and the flow control valve V2 according to the flow chart in Fig. 2 of the reference, wherein V1 is opened with V2 closed to allow discharge of gas from the container 2 to the atmosphere or into the buffer tank 16 when the gas pressure P in the gas phase 6 is higher than a predetermined positive first pressure value P1. (SEE EP 0544943 Figs. 1 and 2; col. 1, lines 51-54; col. 2, lines 12-19; col. 3, lines 5-12; col. 5, lines 27-41). Conversely, to provide additional coolant to the container 2, the processing circuit 27 in Fig. 1 of EP 0544943 closes V1 and opens V2 when the sensed gas pressure P falls below a second pressure value, i.e., when the absolute value of the negative pressure exceeds a second pressure value P2. (col. 2, lines 31-39; col. 3, lines 14-20; col. 5, lines 42-54). Both valves V1 and V2 are closed for sensed pressures between these values where the pressure P is between –P2 and P1 (Fig. 2, col. 6, lines 10-17). Furthermore, while the temperature measured by sensor 13 in EP 0544943 appears to be used by the processing circuit 27 to control the operation of the refrigerator 7 (col. 2, lines 1-7; col. 3, lines 30-35; col. 6, lines 18-25), no teaching or suggestion has been found in EP 0544943 for taking up coolant from a cooling chamber when a coolant temperature exceeds a *first predetermined temperature* or for returning coolant to the cooling chamber when the temperature remains below or is equal to a second *predetermined temperature* as set forth in the independent claims 1, 10, and 13. For this additional reason, therefore, claims 1-6, 8,

and 9 are not anticipated by EP 0544943 and reconsideration and withdrawal of the rejections thereof is respectfully requested under 35 U.S.C. §102.

Further in this respect, independent method claim 10 and dependent claim 11 provide for transferring cooling agent from the cooling chamber to a cooling agent storage when a predetermined *temperature* is exceeded in at least a part of the cooling agent in the cooling chamber, and returning cooling agent from the cooling agent storage to the cooling chamber when the temperature of at least a part of the cooling agent in the cooling chamber is equal to or less than the predetermined temperature. Independent claim 13, moreover, recites an MR apparatus, comprising a superconducting magnet and a cooling device that comprises a cooling agent storage that takes up cooling agent from the cooling chamber when the cooling agent *temperature* exceeds a first predetermined temperature, and returns cooling agent to the chamber when the cooling agent *temperature* remains below or is equal to a second predetermined temperature. As discussed *supra*, EP 0544943 fails to teach or suggest these features of the independent claims 1, 10, and 13, whereby claims 10-11, 13, and new dependent claims 14 and 15 are not anticipated by EP 0544943. In particular, there is no teaching or suggestion in EP 0544943 for taking up coolant from a cooling chamber when a coolant temperature exceeds a first predetermined temperature. Moreover, EP 0544943 fails to teach or suggest returning coolant to a cooling chamber when the coolant temperature remains below or is equal to a second predetermined temperature.

For at least the above reasons, therefore, claims 1-6, 8-11, and 13-15 are not anticipated by EP 0544943 and reconsideration and withdrawal of the rejections thereof is respectfully requested under 35 U.S.C. §102.

Claim 3 depends from independent claim 1 and is thus patentable over EP 0544943 for the reasons set forth *supra*. In addition, claim 3 recites that the refrigerator has a cooling power sufficient to compensate heat transfer to the cooling chamber in regular condition so as to allow *zero boil-off operation*. Applicant has found no teaching or suggestion for this additional feature of claim 3 in the reference, whereby this claim is patentable over EP 0544943 and reconsideration thereof is requested under 35 U.S.C. §102 for this additional reason.

Dependent claim 6 also depends from claim 1 and further recites a *gasometer* for storing the cooling agent at a constant predetermined pressure. As this additional feature of claim 6 is neither taught nor suggested in EP 0544943, reconsideration and withdrawal of the rejection of claim 6 is requested under 35 U.S.C. §102 for this additional reason.

II. CLAIM OBJECTIONS AND ALLOWABLE SUBJECT MATTER

Claims 7 and 12 were objected to on page 2 of the Office Action as being dependent upon a rejected base claim, but were indicated as being allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims. In the above amendment, the pressure tank and compressor features of original claim 7 were added to independent claim 1, whereby claim 1 is now believed to be in condition for allowance. Dependent claim 7 was amended to remove these elements, while still reciting the pressure reduction means, wherein amended claim 7 is now believed to be allowable over EP 0544943 in its current dependent form.

As discussed above, independent method claim 10 is patentable over EP 0544943, whereby claim 12 is also believed to be allowable in its current dependent form, wherein reconsideration and withdrawal of the objections to claims 7 and 12 is respectfully requested.

CONCLUSION

For at least the above reasons, the currently pending claims are believed to be in condition for allowance and notice thereof is requested.

In the event the Examiner considers personal contact advantageous to the disposition of this case, he is requested to telephone Thomas Kocovsky at (216) 861-5582.

Respectfully submitted,

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